Technical Report
for the
Cargo Movement Operations System (CMOS)

Final Interface Requirements Specification
Reconciliation

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Prepared for

Standard Systems Center (SSC)
Deputy Chief of Staff for Acquisition
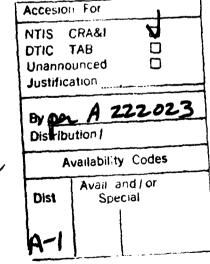Cargo Movement Operations System Division
Gunter AFB, AL   36114

Prepared by

Science Applications International Corporation (SAIC)
6 Eagle Center, Suite 2,
O'Fallon, IL   62269

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SECTION I.

INTRODUCTION.

The purpose of this Technical Report is to identify
deficiencies with, and recommend specific changes to, the
Final Interface Requirements Specification. (DCN+
3709IRS*157*.06).

SUMMARY. Not Used.

CONCLUSION. Not Used.

SECTION II.

RESULTS.

Our analysis is provided in the ensuing pages. Additionally, Appendix E from the Updated Preliminary Interface Design Document (DCN: 3291IDD*256*.02) should be inserted into the IRS to make it complete and correct.

Recommended changes follow:

PAGE	PARA	COMMENT:
1	1.1	Reorder the interfaces so that related interfaces are covered sequentially in the text and in this figure. We recommend the following order:

	From:	To:	Para:
1.	SBSS	CMOS	3.2
2.	CMOS	SBSS	3.3
3.	CMOS (ON-BASE)	ADAM III	3.4
4.	ADAM III (ON-BASE)	CMOS	3.5
5.	CMOS	ADAM III (OFF-BASE)	3.6
6.	ADAM III (OFF-BASE)	CMOS	3.7
7.	CMOS	ACA/CONUS	3.8
8.	CMOS	ACA/OCONUS	3.9
9.	ACA/OCONUS	CMOS	3.10
10.	CMOS	SC&D	3.11
11.	SC&D	CMOS	3.12
12.	CMOS	CDCP	3.13
13.	CMOS	WCA/OCCA	3.14
14.	WCA/OCCA	CMOS	3.15
15.	CMOS	CMOS	3.16
16.	CMOS	CCP	3.17
17.	CCP	CMOS	3.18
18.	CMOS	ETADS	3.19
19.	CMOS	B-TWRAPS	3.20

PAGE	PARA	COMMENT:
9	Fig 3.1	Delete the line of communication between the SBSS and the CMOS host.
11	3.2 c.	Change line 2 to read, "CMOS IRD/SBSS-01 and SBSS-03".
12	3.3 c.	Change line 2 to read, "CMOS IRD/SBSS-02".
12	3.2.2 a.	Delete the following two sentences beginning with, "The inchecker assigned information... to clear the shipment suspense details (Appendix F, Table 3.3.2 a.)".

| 12 | 3.2.2 f. | Change the last sentence to read, "The SBSS will send this transaction which will alert CMOS to..." Delete the references to Tables 3.3.2 a. and 3.2.2 a. |

| 12 | 3.2.1 d. | Change this paragraph to read: "<u>Priority:</u> The default priority for all CMOS interfaces is routine. See Figure 3.2.1 for the internal priority of the CMOS interface messages." |

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| CMOS Internal Message Priorities    |
| 1.   SBSS                           |
| 2.   ADAM III                       |
| 3.   SC&D                           |
| 4.   ACA (CONUS & OCONUS)           |
| 5.   WCA/OCCA                       |
| 6.   CCP                            |
| 7.   CDCP                           |
| 8.   ETADS                          |
| 9. · B-TWRAPS                       |
|                                     |
|            FIGURE 3.2.1             |
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| 12 | 3.2.1 | Add a subparagraph: "e. See Appendix E for a description of the communications protocols that apply to this interface." |

| 13 | 3.3.1 | Add a subparagraph: "e. See Appendix E for a description of the communications protocols that apply to this interface." |

| 13 | 3.3.1 d. | Change this paragraph to read: "<u>Priority:</u> The default priority for all CMOS interfaces is routine. See Figure 3.2.1 for the internal priority of the CMOS interface messages." |

| 13 | 3.3.2 e. | Delete this paragraph. It is a CMOS to SBSS message and not an SBSS to CMOS message. |

14	3.5.1 c.	Delete, "Downline manifest data – 300/monthly per station; truck manifest data – 80/monthly per station."
14	3.5.1 d.	Change the paragraph to read: "Priority: The default priority for all CMOS interfaces is routine. See Figure 3.2.1 for the internal priority of the CMOS interface messages."
14	3.5.1	Add a subparagraph: "e. See Appendix E for a description of the communications protocols that apply to this interface."
14	3.6	Change the title of this paragraph to, "ADAM III to CMOS (On-Base)."
14	3.6 c.	Delete, "CMOS IRD/ADAM III – 04, 06a, and 06b."
15	3.6.1 c.	Delete the following: "Downline manifest data – 300/monthly per station;" "ATCMD data – 750/monthly per ACA terminals."
15	3.6.1 d.	Change the paragraph to read: "Priority: The default priority for all CMOS interfaces is routine. See Figure 3.2.1 for the internal priority of the CMOS interface messages."
15	3.6.1	Add a subparagraph: "e. See Appendix E for a description of the communications protocols that apply to this interface."
15	3.6.2 – b., c., d., e.	Delete and move to ADAM III (Off-Base) to CMOS.
15	3.7	Add the ADAM III (Off-Base) to CMOS interface description:

"3.7 ADAM III (Off-Base) to CMOS

    a. Identifier: CC0212
    b. System OPR: HQ MAC/TRQS
    c. Interface Authority/Directive Requirement: CMOS IRD/ADAM III – 03a, 03b, 06a, 06b.

d. <u>Functional Description:</u> ADAM III provides an automated cargo airlift mission at major Military Airlift Command (MAC) aerial ports. It also maintains a centralized database at HQ MAC of all shipments originating or intransit through the CONUS/ Overseas aerial ports. ADAM III provides visibility of cargo location and status, and establishes the basis for supporting intransit visibility required for contingency operations.

3.7.1 Interface Requirements:

a. <u>Description.</u> These interface requirements are to pass the following from ADAM III (Off-Base) to CMOS:

(1) 900 Air Manifests
(2) Manifest Headers
(3) Cargo Pallet Headers
(4) Prime TCMDs
(5) 560 Abort Mission Transactions
(6) 410 Confirmation of Lifted Manifest Records
(7) 405 Rejected Lift Notices

b. <u>Frequencies.</u> Daily/Monthly

c. <u>Volume.</u> Manifest data- 300/ monthly per station, abort transaction - 50/day, confirmation of lifted manifest - 1/day per station, rejected lift message - 50/month.

d. <u>Priority.</u> The default priority for all CMOS interfaces is routine. See Figure 3.2.1 for the internal priority of the CMOS interface messages.

3.7.2   Data Requirements:

a. The MAC Standard Header (MSH)
    must always be used as the first
    record when communicating
    through the Scott AFB Data
    Communication Gateway.
    (Appendix F, Table 3.6.2f). The
    cargo pallet header contains
    general information concerning
    transportation via air cargo
    (Appendix F, Table 3.6.2g). The
    prime TCMD message is the header
    record for general transactions.
    It may be followed by various
    trailer records which describe
    the specific shipment (Appendix
    F, Table 3.12.2 m.).

b. At "zero hours ZULU time", ADAM
    III transmits a message to the
    local CMOS at Scott AFB, IL via
    Transportation Reporting and
    Inquiry System (TRAIS). The
    message contains the Manifest
    Reference and Time of Lift for
    each MAC Manifest lifted from
    that CMOS station during the
    previous 24 hours (Appendix F,
    Table 3.6.2b).

c. When mission data concerning an
    aircraft lifted from a CMOS
    station fails to pass the
    MILSTAMP-based ADAM III edits at
    Scott AFB, a 405 Rejected Lift
    Notice is transmitted to the
    originating CMOS station for
    correction of errors (Appendix,
    Table 3.6.2c). CMOS uses the
    Rejected Lift Notice to correct
    errors, then resubmits the
    mission data for required
    tracking and billing.

d. For MAC missions aborted at ADAM
    III aerial ports, ADAM III will
    pass a 560 Abort Mission
    Transaction via the Scott AFB
    Data Management Unit (DMU) to

the downline CMOS station originally scheduled to receive that mission (Appendix F, Table 3.6.2d).

e. For cargo loaded aboard MAC aircraft at ADAM III stations, ADAM III will pass air manifest data (900 Transaction) via the Scott AFB Data Management Unit (DMU) over DDN to the CMOS downline station identified on the manifest as the manifest destination. If DDN cannot be used, capability will exist for ADAM III to create a floppy diskette manifest to accompany the cargo (Appendix F, Table 3.6.2e)."

17   3.8.1 d.   Change the paragraph to read: "<u>Priority:</u> The default priority for all CMOS interfaces is routine. See Figure 3.2.1 for the internal priority of the CMOS interface messages."

17   3.8.1   Add a subparagraph: "e. See Appendix E for a discussion of the communication protocols that apply to this interface."

17   Fig 3.5   The majority of the figures in this document are in error. Delete them starting with Figure 3.5

19   3.9. d.   Change the paragraph to read: "<u>Priority:</u> The default priority for all CMOS interfaces is routine. See Figure 3.2.1 for the internal priority of the CMOS interface message."

19   3.9.1   Add a subparagraph:
"e. See Appendix E for a discussion of the communications protocols that apply to this interface."

20   3.9.2 b.   Delete and move to paragraph 3.10

| 20 | 3.10 | Retitle this paragraph and substitute the following text: |

"3.10 Airlift Clearance Authority (ACA)/ OCONUS to CMOS

a. <u>Identifier:</u> CC0209
b. <u>System OPR:</u> SSC/AQFT
c. <u>Interface Authority/Directive Requirement:</u> CMOS IRD ACA-2, dated 4 APR 1988.
d. <u>Functional Description:</u> ACA/Overseas Responsibilities include:

1.   Review Advance Transportation Cargo Movement Documents (ATCMDs) for accuracy and completeness and letermines whether a shipment is eligible and accepted for entry into the airlift system,

2.   Returns challenge notices to shipper or sponsoring activities for shipments that cannot be accepted into the airlift system,

3.   Provides ADAM III with a complete and accurate TCMD for each shipment cleared into the airlift system,

4.   Retains a copy of the TCMD and appropriate ledger for shipments cleared into the airlift system,

5.   Receives TCMDs or listings for shipments which have not arrived within five days of estimated time of arrival, and

6.   Receives daily cargo-on-hand listings and statistical information (upon request) from the air terminal."

| 20 | 3.10.1 | Interface Requirements: |

a.   <u>Description:</u>

Upon receipt of the ATCMD and trailer data from a CMOS site requesting airlift for approval, the ACA approves the

shipment for airlift or challenges the shipment via UNIX E-MAIL. Challenge and TP-4 positive release messages are transmitted to the originating CMOS via UNIX E-MAIL. Messages transmitted by the ACA to the originating CMOS are identified to the shipment planning office, utilizing a windowing technique, indicating mail has been received. These messages reappear every 30 minutes until the mail is reviewed.

b. Frequencies: As required

c. Volume: 200-240 monthly

d. Priority: The default priority of CMOS interfaces is routine. See Figure 3.2.1 for the internal priority of the CMOS interface messages.

e. See Appendix E for a description of the communications protocols that apply to this interface.

20   3.9.2   Data Requirements:

The ACA operator must be able to:

1. Identify in the database whether a particular shipment has been challenged or not, and

2. Purge records after the ATCMD data has been passed. Upon receipt of ATCMD and trailer data from a CMOS site requesting airlift approval, the ACA approves the shipment for airlift or challenges the shipment via UNIX E-MAIL. Challenge and TP-4 positive release messages are transmitted to the originating CMOS office via UNIX E-MAIL. Messages transmitted by the ACA to the originating CMOS are identified to the shipment planning office, utilizing a windowing technique, indicating mail has been received. These messages reappear every 30 minutes until the mail is reviewed. Challenge responses from the

		origin CMOS to the ACA are accomplished by telephone or free-form UNIX E-MAIL message (Appendix F, Table 3.9.2c).
20	3.10	Move the CMOS to CCP interface to paragraph 3.17.
20	3.10 c.	Delete, "CMOS IRD/CCP-06, dated 21 December 1987".
20	3.10.1 a. (2)	Delete this paragraph.
20	3.10.1 d.	Change the paragraph to read: "Priority: The default priority for all CMOS interfaces is routine. See Figure 3.2.1 for the internal priority of the CMOS interface messages."
20	3.10.1	Add a subparagraph: "e. See Appendix E for a discussion of the communications protocols that apply to this interface."
20	3.10.2 a.	Add "(Appendix F, Tables 3.10.2a-p)" at end of first sentence.
20	3.10.2 a.	Delete, "CCP sends manifest data to the overseas consignee CMOS, giving advance shipping information (Appendix F, Tables 3.10.2a-p)." Move to CCP to CMOS interface, paragraph 3.18.
20	3.10.2 b.	Delete, "CCP sends manifest data to consignee base for surface shipments after consolidating and determining shipment data (Appendix F, Tables 3.10.2e-f)." Move to CCP to CMOS interface, paragraph 3.18.
20	3.11 c.	Delete reference to, "CMOS IRD/AFDCO-01". This data transfer is described in the CMOS to ACA/CONUS Interface in paragraph 3.8.
22	3.11.1 d.	Change to read: "Priority: The default priority for all CMOS interfaces is routine. See Figure 3.2.1 for the internal priority of the CMOS interface messages."

22	3.11.1	Add a subparagraph: "e. See Appendix E for a discussion of the communications protocols that apply to this interface."
23	3.12. c.	Change the paragraph to read: "Interface Authority/Directive Requirement: CMOS IRD SC&D 10, 12, 13, and 15."
23	3.12.1 d.	Change to read: "Priority: The default priority for all CMOS interfaces is routine. See Figure 3.2.1 for the internal priority of the CMOS interface messages."
23	3.12.1	Add a subparagraph: "e. See Appendix E for a discussion of the communications protocols that apply to this interface."
23	3.12.2 a.	Change "four" to "five".
23	3.12.2 b.	Change to, "... are transmitted from CMOS to SC&D via DDN (Appendix F, Table 3.12.2 a.)."
23	3.12.2 c.	Change "Destination" to "CMOS".
23	3.12.2 d.	Change to, "... is transmitted by CMOS to SC&D via DDN (Appendix F, Tables 3.12.1 b - o)."
23	3.12.2 e.	Change to, "... are transmitted by CMOS to SC&D via DDN."
23	3.12.2 f.	Change to, "... are transmitted by CMOS to SC&D when a REPSHIP is received with a DIC of `YTE' (Appendix F, Table 3.12.2 o.)."
24	3.13 c.	Delete, "CMOS IRD/ADAM III -03a, 03b, 06a, and 06b." Move these to ADAM III to CMOS (Off-Base) Interface.
24	3.13.1 a. (1)	Change to read: "(1) To transmit `900 TRANSACTION' records for air manifest and associated trailer data from CMOS to ADAM III via the Communications Gateway, Scott AFB, IL."

25	3.13.1 a. (2)	Change to read: "To Transmit '560 ABORT MISSION TRANSACTION' records from CMOS to ADAM III via the Communications Gateway."
25	3.13.1 c. (2), (3)	Delete these two messages and renumber paragraphs.
25	3.13.1 (d)	Change to read: "Priority: The default priority for all CMOS interfaces is routine. See Figure 3.2.1 for the internal priority of the CMOS interface messages."
25	3.13.1	Add a subparagraph: "e. See Appendix E for a discussion of the communications protocols that apply to this interface."
25	3.14 c.	Change to read: "Interface Authority/Directive Requirement: CMOS-IRD CDCP-21, AFR 75-1, and DOD M 4000-23, DODR 4500.32."
26	3.14.1 d.	Change to read: "Priority: The default priority for all CMOS interfaces is routine. See Figure 3.2.1 for the internal priority of the CMOS interface messages."
26	3.14.1	Add a subparagraph: "e. See Appendix E for a discussion of the communications protocols that apply to this interface."
28	3.15.1 d.	Change to read: "Priority: The default priority for all CMOS interfaces is routine. See Figure 3.2.1 for the internal priority of the CMOS interface messages."
28	3.15.1	Add a subparagraph: "e. See Appendix E for a discussion of the communications protocols that apply to this interface."
29	3.16 c.	Change to read: "Interface Authority/ Directive Requirement: CMOS IRD/SC&D 9, 11, 14, and 16."

29	3.16.1 d.	Change to read: "Priority: The default priority for all CMOS interfaces is routine. See Figure 3.2.1 for the internal priority of the CMOS interface messages."
29	3.16.1	Add a subparagraph: "e. See Appendix E for a discussion of the communication protocols that apply to this interface."
29	3.16.2	(1) Change "Four" to "Five" in paragraph a. (2) Change "Table 3.12.2c" to "Table 3.12.2c - 3.12.2j."
29	3.16.2 c.	Change the sentence to read: "... between the Air Terminal at Wright Patterson AFB (SC&D) and Air Freight (CMOS) only."
31	3.17.1 d.	Change to read: "Priority: The default priority for all CMOS interfaces is routine. See Figure 3.2.1 for the internal priority of the CMOS interface messages."
31	3.17.1	Add a subparagraph: "e. See Appendix E for a discussion of the communications protocols that apply to this interface."
31	3.18.1 d.	Change to read: "Priority: The default priority for all CMOS interfaces is routine. See Figure 3.2.1 for the internal priority of the CMOS interface message."
31	3.18.1	Add a subparagraph: "e. See Appendix E for a discussion of the communications protocols that apply to this interface."
32	3.19.1	Delete this paragraph.
32	3.19.1 d.	Change to read: "Priority: The default priority for all CMOS interfaces is routine. See Figure 3.2.1 for the internal priority of the CMOS interface message."

32	3.19.1	Add a subparagraph: "e. See Appendix E for a discussion of the communications protocols that apply to this interface."
32	3.19.2 d.	Add "Tables 3.10.2 e-f" at the end of this paragraph.
F-25	Table 3.5. 2 a.	Change the DESTINATION CSCI to "ADAM III".
F-38	3.7.2 j.	Rename ID "IA201810" to "172/PACKAGING DIREPS RECEIVED".
F-46- F-49	N/A	In the following tables, change the SOURCE CSCI to "CCP" and the DESTINATION CSCI to "CMOS COMMUNICATIONS":

        1.   3.10.2e
        2.   3.10.2f
        3.   3.10.2g
        4.   3.10.2h
        5.   3.10.2i
        6.   3.10.2j
        7.   3.10.2k
        8.   3.10.2l
        9.   3.10.2m
       10.   3.10.2n
       11.   3.10.2o
       12.   3.10.2p

F-44, F-49, F-50	N/A	In the following tables add "CCP" as a source CSCI and "CMOS COMMUNICATIONS" as a destination CSCI.

        1.   3.10.2c
        2.   3.10.2l
        3.   3.10.2n

F-65 - F-74	N/A	Add "SC&D" as a source CSCI and "CMOS COMMUNICATIONS" as a destination CSCI and add the "CMOS" to "CMOS" routing to Tables 3.12.2a thru 3.12.2o.
F-77 - F-80	N/A	Add "ADAM III" as a source CSCI and "CMOS COMMUNICATIONS" as a destination CSCI in Tables 3.13.2b through 3.13.2j.

F-80   3.13.2 i. Delete this Table and substitute "410
                       confirmation of Lifted Manifest Record
                       (TRAIS):DIC 410.", as shown in Attachment
                       1.

F-81   N/A   Add two tables found at Attachment 2,
                       numbered "3.13.2m & o", to Appendix F and
                       number the page F-81A.